

APNET

*An Ethernet adaptor for
the Amiga 600/1200 Computers*



NATIONAL AMIGA
AMIGA PRODUCTS AND SERVICES INTERNATIONAL

APNET Ethernet for Amiga 600/1200 computers

APNET is Copyright 1999 by ARCHTECH Incorporated

This manual is published by ARCHTECH Incorporated who reserves the right to make improvements in the products described in this manual as well as to revise this publication at any and without notice to any person of such revision or change.

All rights reserved. No part of this publication may be reproduced, transcribed, stored in an electronic retrieval system, translated into any language or computer language, or be transmitted in any form whatsoever without the prior written consent of the publisher. For additional information, please contact:

ARCHTECH Incorporated
111 Waterloo St. #101
London, Ontario N6B2M4

TRADEMARKS:

All brand and product names are trademarks or registered trademarks of their respective holders.

NOTICE:

All titles, versions, trademarks, claims of compatibility etc.. of hardware and software products mentioned herein are the sole property and responsibility of the respective vendors. ARCHTECH Incorporated makes no endorsement of any particular product for any purpose, nor claims responsibility for its operation and accuracy.

UPDATES:

Updates to the products and the manual are obtainable directly from National Amiga. Please consult the registration information on the back of this manual.

STATEMENT OF APPLICATION:

This manual is written for users of the APNET PCMCIA ethernet card. Please read the appropriate chapters before installing, changing any options or operating the unit.

Please have a nice day.

APNET Ethernet for Amiga 600/1200 computers

Table of Contents:

Introduction to Networking Basics	Page 1
Hardware Installation	Page 3
Software Installation	Page 4
Troubleshooting	Page 5
10-base-T Crossover Cable	Page 6
1200 PCMCIA Reset Line	Page 7

Manual written by Greg Scott
Edited by Joe Archibald

Updates for manual available online at
<http://www.nationalamiga.com/apnetregister.html>

**APNET Ethernet
for Amiga 600/1200 computers**

Introduction to Networking Basics:

Networking hardware on the Amiga is quite similar to what it would be on an IBM PC or a Mac. The topology is all the same, just the cards and actual networking software is different. You can network all kinds of different machines together as long as they are using the same network type (in this case 10-megabit Ethernet) and using the same networking protocol. The most common networking protocol is TCP/IP, the same protocol that the Internet uses. This is available for Amiga's, PC's and Mac's.

You can also put machines on the network that don't necessarily have to talk with each other. For instance, Envoy is an Amiga only networking protocol that PC's or Mac's will not understand. Therefore if everything is set up properly, those other machines will just ignore the Envoy traffic on the network and pay attention to only information destined for them. The advantage of this is if you already have an installed network topology in a building or office, you don't have to run specific lines and use different hubs just to use your Amigas.

There are many many possibilities with networking. Just look at how the internet is changing the world. It's the largest network of computers in the world and getting larger every day.

10-base-T (10bT) commonly uses an RJ45 connector, like your telephone line, and then feeds into a network HUB. This hub has other computers plugged into it with similar network cards. You can directly connect 2 computers together with 10-base-T without the need for a hub by use of a 'crossover' cable.

**APNET Ethernet
for Amiga 600/1200 computers**

Introduction to Networking Basics continued:

10-base-2 (10b2) is sometimes called BNC or coax, mainly because the connectors it uses are BNC and the cable is RG58 coax. 10-base-2 networks are commonly daisy chained computers one after the other. Up to 255 computers can be chained this way over 185 metres.

You will require a BNC-T connector to plug onto the media coupler (included), and a 50 Ohm terminator (not included) if this is the last computer in the 10b2 line.

Most hubs will also have a 10-base-2 connection on them allowing you to 'bridge' between 10-base-T and 10-base-2 networks.

Remember, you do need a 50 Ohm terminator at the each end of the 10b2 network.

**APNET Ethernet
for Amiga 600/1200 computers**

Hardware Installation:

Included with the package is a media coupler. This is where you will find the 10bT and 10b2 connectors for connecting to your network. Extending from this coupler will be a small cable with a plug to connect into the PCMCIA card itself. It can only plug in one way to the card, but be careful, it is somewhat fragile.

Next plug the PCMCIA card into your Amiga's PCMCIA slot with the NA logo UP. The PCMCIA standard is hot swappable, meaning you can plug a card in or out while the power is turned on.

Connect your desired network type, 10b2, or 10bT to your media coupler. You can use one or the other, not both. The card will autosense which one is connected.

Remember that a 10-base-2 network requires a terminator a BNC-T on each card and then each end of the network requires a terminator on it.

Now on to the software installation.

**APNET Ethernet
for Amiga 600/1200 computers**

Software Installation:

Envoy v2

When installing Envoy, you will be asked about your interface and will be given a choice of Commodore 2060, Commodore 2065 and Other. Choose other. It will then ask you to pick your device driver. Go to devs:networks and select cnet.device. And then unit 0. Continue as normal.

Inet 225

This can vary depending on how you set up Inet225. Typically when asked for the device driver that you will be using for your ethernet card, simply enter "devs:networks/cnet.device" and continue.

Miami V3

Run Miaminit.

Select Ethernet, Cable/ASDL modem

Select PCMCIA Cnet-compatible board

Continue as normal.

Amitcp v4.x

When installing AmiTCP you will be asked to supply your device driver. Tell it to use "devs:networks/cnet.device" and unit 0. Continue as normal with the installation.

**APNET Ethernet
for Amiga 600/1200 computers**

Appendices:

Troubleshooting:

My TCP/IP stack is not recognising cnet.device

1. Make sure cnet.device is installed in devs:networks/
2. Amiga 1200's have been around a long time and more than likely has not had any use of it's PCMCIA port. They can get dusty, so make sure it's nice and clean.
3. Be very sure the card is in tight in the PCMCIA slot.
4. Some Amiga 1200's do not have properly functioning PCMCIA reset lines, try removing and re-inserting the APNET card while the computer is turned on.

I cannot ping other machines on my network.

1. Usually this has to do with TCP/IP settings on your computer. Check to make sure you IP, gateway, dns server and such are all set appropriately with your network.
2. If using a 10-base-2 network, make sure there is a terminator on each ends of the network.
3. If using a 10-base-T network, check to see if there if the link light is lit up on your hub.

**APNET Ethernet
for Amiga 600/1200 computers**

Appendices:

10-base-T Cross Over Cable:

This cable is usefull if you are just networking two computers together using 10-base-T RJ45 style connections. The concept is identicle to a null-modem cable for serial ports.

You **WILL** require:

10-base-T Catagory 5 cable to the length you need.

10-base-T RJ45 Catagory 5 Crimp Ends

10-base-T RJ45 Crimper Tool

Please note, this is the technical specification on how to build this cable, but we do NOT take any responsibility for the results of this operation. Crossover cables are available from National Amiga and other sources.

Pin	One End	Opposite End
1	White/Orange	White/Green
2	Orange	Green
3	White/Green	White/Orange
4	Blue	Blue
5	White/Blue	White/Blue
6	Green	Orange/White
7	White/Brown	White/Brown
8	Brown	Brown
Nib down.		

**APNET Ethernet
for Amiga 600/1200 computers**

Appendices:

Please note! The Commodore Amiga 1200 PCMCIA slot was missing the CARD RESET line when it was built. This is not the case with the Amiga 600 and the majority of the Amiga Technologies A1200s. Therefore on the Amiga 1200s without the reset line you will sometimes have to manually reset the card by removing the card and plugging it back in after you RESET (IE: CTRL-A-A) the Amiga. This is not needed if the 1200's power is turned off and then back on.

You can have the CARD RESET line added to your Amiga 1200. See below:

(as taken from the cnet.device archive)

The A1200 seems to have a bug in its Gayle chip, as the CC_RESET line does not work! The ROM code called by CardResetCard is identical to the A600 (which does work properly) but when executed on the A1200 nothing happens at the pin...

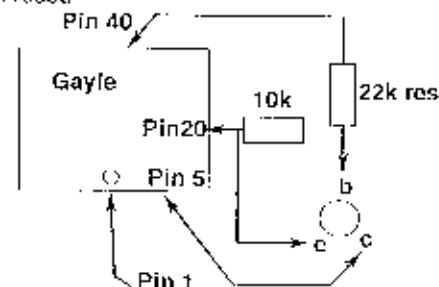
To fix this here is a simple circuit that resets the card every time the bus RESET signal occurs, ie. at power on or any system reset.

Parts required:

- 1 x 22K resistor
- 1 x 10K resistor
- 1 x BC327 (or equivalent) PNP transistor

Gayle pin locations

- Pin 5 (CC_RESET) is the 5th pin from the 'pin 1' marking.
- Pin 20 (+5V) is the 9th pin counting up the right side.
- Pin 40 (RESET) is the 8th pin from the right, on the top.



**APNET Ethernet
for Amiga 600/1200 computers**

Please register your APNET card with us online at:

<http://www.nationalamiga.com/apnetregister.html>

This will qualify you for future updates.

Technical support is available by the following methods:

Phone: +1-519-858-8760

Fax: +1-519-858-8762

email: tech@nationalamiga.com

Monday to Saturday 10am until 6pm EST